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Art Unit 2437

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Examiner: Zachary A. Davis
Applicants: Valene Skerpac
Serial No: 10/062,799
Filed: January 31, 2002
Title : N-Dimehsional Biometric Security System

AFFIDAVIT

State of New Jersey)
) ss
County of MIDDLESEX)

I, Aaron E. Rosenberg, being duly sworn under penalty of perjury depose and say:

I am a resident of BERKELEY HEIGHTS NEW JERSEY

1. My educational background and work experience are as set forth in the attached Biographical Sketch;

2. I have read United States Patent Application Publication US2002/0104027 (Skerpac), United States Patent 5,897,616 (Kanevsky) and United States Patent Application Publication US2002/0165894 (Kashani).

3. I have read the Final Rejection dated December 19, 2008 in the pending US patent application No. 10/062,799 and understand that claim 1 thereof is rejected as anticipated by Kanevsky, i.e. US Patent 5,897,616.

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4. I understand that the rejection of claim 1 of US patent application No. 10/062,799 is based on the Patent Examiner's belief that Kanevsky has a controller that communicates with a database that generates one-time challenge phrases for a user to speak.

5. Kanevsky, as set forth at column 3, lines 26 to 33, queries a speaker with a random question based on the information contained in an accessed database attributable to the speaker candidate. Examples could be the person's mother's maiden name or the make of the person's first car.

6. Kanevsky does not describe a controller that communicates with a database that generates one-time challenge phrases for a user to speak. Instead, Kanevsky, at column 6, lines 25-29, states "Next, utilizing the specific information from the identified user's database, the server 22 generates a random question (or multiple random questions) for the user via link 36. The user answers the random question(s) which is sent back to the server 22 via link 38." Kanevsky does not teach that a user is to speak the generated question.

7. I have read the rejected claim 1 of US patent application No. 10/062,799 and understand that this claim requires a controller to communicate with a data base for randomly generating a one-time challenge phrase from a plurality of words and language rules in the data base and to deliver the one-time challenge phrase to a station for a user to speak. I understand that the language of claim 1 requires a user to repeat the one-time challenge phrase as a spoken response.

8. Claim 1 of US patent application No. 10/062,799 requires a user to repeat verbatim a simple, randomly selected and generated phrase. The phrase is generated so that it is highly unlikely to have been used previously as a challenge phrase.

9. Kanevsky does not describe or teach a controller for randomly generating and delivering a one-time challenge phrase for a user to speak the one-time challenge phrase exactly; to receive a spoken response from the user to the delivered one-time challenge phrase and to generate a second signal representative of the spoken response; and to process said second signal for speech recognition and to issue a validation signal in response to said second signal exactly matching said one-time challenge phrase.

10. In Kanevsky, the challenge phrase is intended to elicit a response in which a piece of personal information is embedded. The speech recognizer invoked to analyze the response operates in a natural language understanding mode. The response cannot be a verbatim repetition of the challenge phrase.In claim 1 of US patent application No. 10/062,799, the spoken phrase is expected to be a verbatim repetition of the challenge phrase. The speech recognizer invoked to analyze the utterance operates in a speech verification mode with no understanding of the content of the phrase.

11. I understand that claim 16 of US patent application No. 10/062,799 stands rejected as being unpatentable over Kanevsky in view of Kashani and that the Patent Examiner, relying on paragraphs [0118] and [0119] of Kashani,

alleges that it would be obvious to modify Kanevsky by requiring the spoken answer to be exactly the same as the random question.

12. Kanevsky requires a semantic analyzer 40 to determine if the answer is correct in accordance with the user's database (col. 6, lines 37-39). Therefore, requiring the spoken answer to be exactly the same as the random question, would not allow the semantic analyzer 40 of Kanevsky to determine if the answer is correct in accordance with the user's database. Accordingly, the proposed modification of Kanevsky would be contrary to the teachings of Kanevsky.

13. Paragraph [0119] of Kashani states that if a user had only a single spoken password, then this could be recorded and played back during a security attack. Therefore, one of ordinary skill in the art would not be motivated to modify Kanevsky by requiring the spoken answer to be exactly the same as the random question.

Further deponent saith not.

Aaron E. Rosenberg

Sworn to before me this 24th day of February 2009

Notary Public

JUDITH PELLICANE
NOTARY PUBLIC OF NEW JERSEY
Commission Expires 9/28/2013

Seal

BIOGRAPHICAL SKETCH

Aaron E. Rosenberg
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Education:
S.B., Mass. Institute of Technology, 1960
S.M., Mass. Institute of Technology, 1960
Ph.D., University of Pennsylvania, 1964

Appointments:

2003-present	Research Professor	Rutgers University-CAIP
1996-2002	Technology Leader	AT&T Labs-Research
1964-1996	Distinguished Member of the Technical Staff	Bell Laboratories

Prizes and Awards:

Fellow	IEEE
Fellow	Acoustical Society of America
Best Paper Award	IEEE Signal Processing Society

Synergistic Activities:
Dr. Rosenberg retired from AT&T Labs-Research in 2002 where he was a Technology leader in the Speech and Image Processing Services Laboratory. His technical interests were automatic speech and speaker recognition. His research activities have included auditory psychophysics, speech perception, speech quality, as well as speech and speaker recognition. He has authored or co-authored some 100 papers in these fields and has been granted 11 patents. At Rutgers University-CAIP Dr. Rosenberg conducted a research project funded by the NSA on unsupervised speaker segmentation and indexing of recorded telephone conversations.

Selected Publications:
A.E. Rosenberg, A. Gorin, Z. Liu, and S. Parthasarathy, "Unsupervised speaker segmentation of telephone conversations", *Proc. Intl. Conf. on Spoken Language Processing*, 565-568, Denver, 2002.

A.E. Rosenberg, O. Siohan, and S. Parthsarathy, "Small group speaker identification with common password phrases," *Speech Communication 31*, 131-140, 2000.

A.E. Rosenberg, I. Magrin-Chagnolleau, S. Parthasarathy, and Q. Huang. "Speaker detection in broadcast speech databases", *Proc. Intl. Conf. on Spoken Language Processing*, 1339-1342 Sydney, 1998.

A.E. Rosenberg and S. Parthsarathy, "Speaker background models for connected digits password speaker verification", *Proc. 1996 Intl. Conf. on Acoustics, Speech and Signal Processing*, I, 81-84, Atlanta, 1996.

BIOGRAPHICAL SKETCH

A.E. Rosenberg, J. DeLong, C.H. Lee, B-H. Juang, and F.K. Soong, "The use of cohort normalized scores for speaker verification", *Proc. Intl. Conf on Spoken Language Processing*, 599-602, 1992.

A.E. Rosenberg and F.K. Soong, "Recent research in automatic speaker recognition", Chapter 22 in *Advances in Speech Signal Processing* (S. Furui and M.M. Sondhi, eds.), New York: Marcel Dekker, 1992.

A.E. Rosenberg, C-H. Lee, and S. Gokcen, "Connected word talker verification using whole-word hidden Markov models, *Proc. 1991 Intl. Conf. on Acoustics, Speech and Signal Processing*", 381-384, Toronto, 1991.

F.K. Soong, A.E. Rosenberg, L.R. Rabiner, and B-H. Juang, "A vector quantization approach to speaker recognition", *AT&T Tech. J.* 66, 14-26, 1987.

A.E. Rosenberg and K.L. Shipley, "Talker recognition in tandem with talker-independent isolated word recognition", *IEEE Trans. on Acoustics, Speech and Signal Processing* ASSP-33, 574-586, 1985.

A.E. Rosenberg, L.R. Rabiner, J.G. Wilpon, and D. Kahn, "Demisyllable-based isolated word recognition", *IEEE Trans. on Acoustics, Speech and Signal Processing* ASSP-31, 713-726, 1983.

A.E. Rosenberg and C.E. Schmidt, "Automatic recognition of spoken spelled names for obtaining directory listings", *Bell Sys. Tech. J.* 58, 1797-1823, 1979.

A.E. Rosenberg, "Automatic speaker verification: a review", *Proc. IEEE* 64, 399-418, 1979.

A.E. Rosenberg and M.R. Sambur, "New techniques for automatic speaker verification", *IEEE Trans. on Acoustics, Speech and Signal Processing* ASSP-23, 169-175, 1975.

A.E. Rosenberg, "Listener performance in speaker verification tasks, *IEEE Trans. on Audio and Electroacoustics* AU-21, 221-225, 1973.

A.E. Rosenberg, "Effect of glottal pulse shape on the quality of natural vowels", *J. Acoustical Soc. Of Am.* 49, 583-590, 1971.

A.E. Rosenberg, "Effect of pitch averaging on the quality of natural vowels", *J. Acoust. Soc. Am.* 44, 592-1595, 1968.